



# **Cost Efficiency in Delaware Education**

Final report on efficiency opportunities

January 10, 2008

THE BOSTON CONSULTING GROUP

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## Our approach

## Findings, recommendations, and estimated savings

- Summary
- Transportation
- Purchasing
- Energy
- Benefits
- Construction
- Admin/system
- Department of Education (DOE)

## Appendix: Supporting analysis (separate)

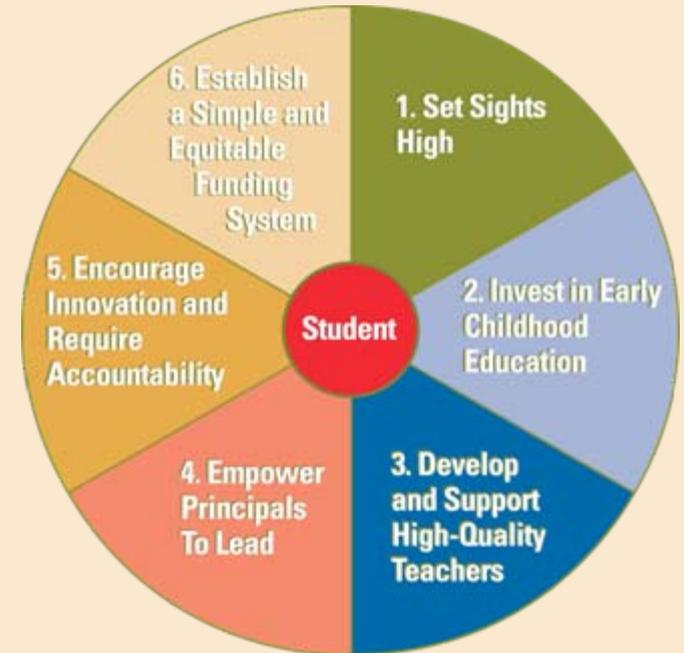
# Vision 2015 provided a framework for improving Delaware's "return on investment" in public education

## The situation...

Despite these gains, Delaware's public education system remains in the **middle of the pack**. Among the 50 states and the District of Columbia, we rank **8th** in spending,<sup>1</sup> but only **27th** in performance.<sup>2</sup>

(% proficient, 2005 NAEP 8<sup>th</sup> Grade Math and Reading)

## The opportunity...



Does not mean we spend too much, but that there are better ways to ensure we deliver a better return on DE educators' hard work

# However, many V2015 initiatives require new investment

Selected examples of areas warranting investment...if the money were available

Area	Investment	Annual cost <sup>1</sup>
<b>Vision Network</b>	<ul style="list-style-type: none"><li>Expand Vision Network's intensive school and district leadership training and professional development. With the addition of a second cohort, a total of about 21,000 children, 40 district and school leaders, and 950 teachers will be part of the effort to become world-class by 2015</li></ul>	<ul style="list-style-type: none"><li>\$4.2M</li></ul>
<b>Early Childhood Education</b>	<ul style="list-style-type: none"><li>Expanded access to ECAP (low-income 3- and 4-year olds)</li><li>Expansion of DE Stars quality rating system</li></ul>	<ul style="list-style-type: none"><li>\$12.5M</li><li>\$1.7M</li></ul>
<b>Professional Development Centers</b>	<ul style="list-style-type: none"><li>Two regional centers focused on sharing high quality professional development</li></ul>	<ul style="list-style-type: none"><li>\$1M</li></ul>
<b>Teacher Recruitment Initiative</b>	<ul style="list-style-type: none"><li>Regional recruitment initiative for high-need subjects and schools</li></ul>	<ul style="list-style-type: none"><li>\$1-2M</li></ul>

**The promise of Vision 2015, coupled with current spending levels and fiscal realities, is the driving force of this cost efficiency study**

1. Costs are FY 2009 estimates; annual costs could increase after FY 2009 with the further expansion of programs

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# Study began by delineating scope and driving principles

## Study DOES address

- Spending of Federal, state, and local funds in the 19 school districts and 17 charter schools
- Spending at state level on Pre-K - 12 education, by the...
  - Department of Education
  - Department of Services for Children, Youth, and their Families
  - Department of Health & Social Services
  - Delaware higher education community

## Study DOES NOT address

- Spending on higher education, libraries, or other areas outside of Pre-K - 12 education
- Recommended changes to the way funds are generated or allocated, except to identify any ways in which the current funding system impedes realizing efficiencies
  - LEAD funding study (also included in Executive Order 98) should explore these topics in more detail

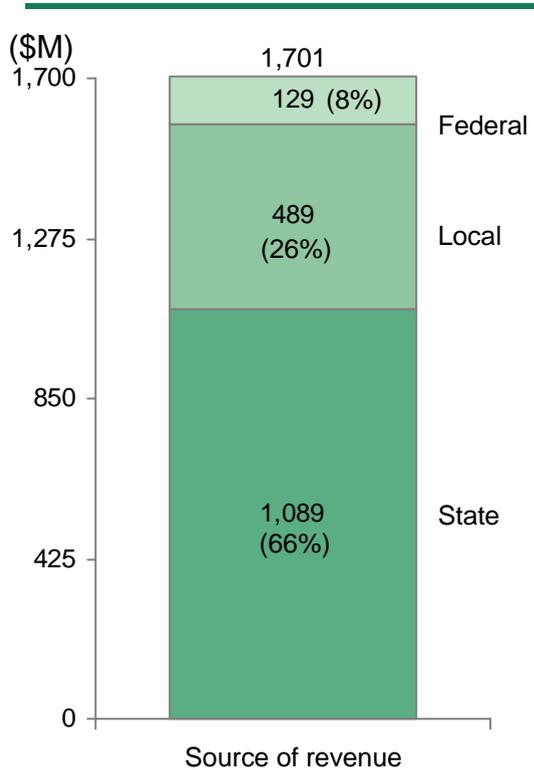
## Key principles for the study

- We should be guided not by whether there is a good reason for the way things are, but by whether tax dollars could better support student success
- No “sacred cows” - all types of spending are considered “in scope”
- Many inefficiencies are the product of specific policies or practices. If we as a state preserve them, we should understand the cost of that decision

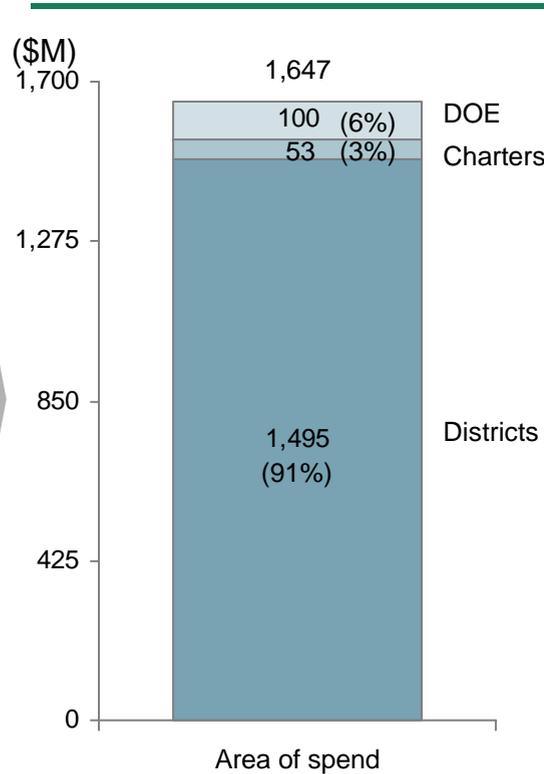
# Study addressed ~\$1.65B in spending (current and capital)

Most education revenue comes from the state and is spent at the district level

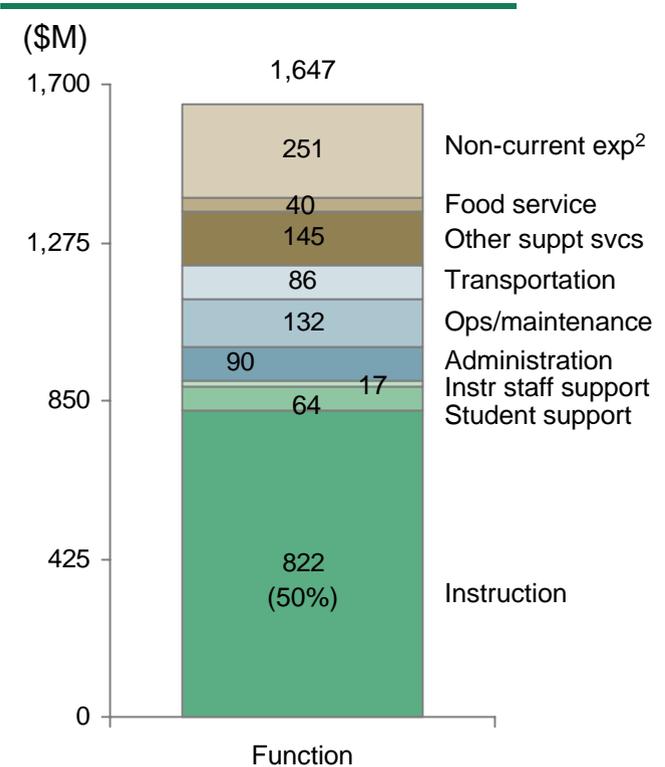
Funds provided from three sources<sup>1</sup> ...



...and spent primarily to fund the districts...



...on a variety of functions

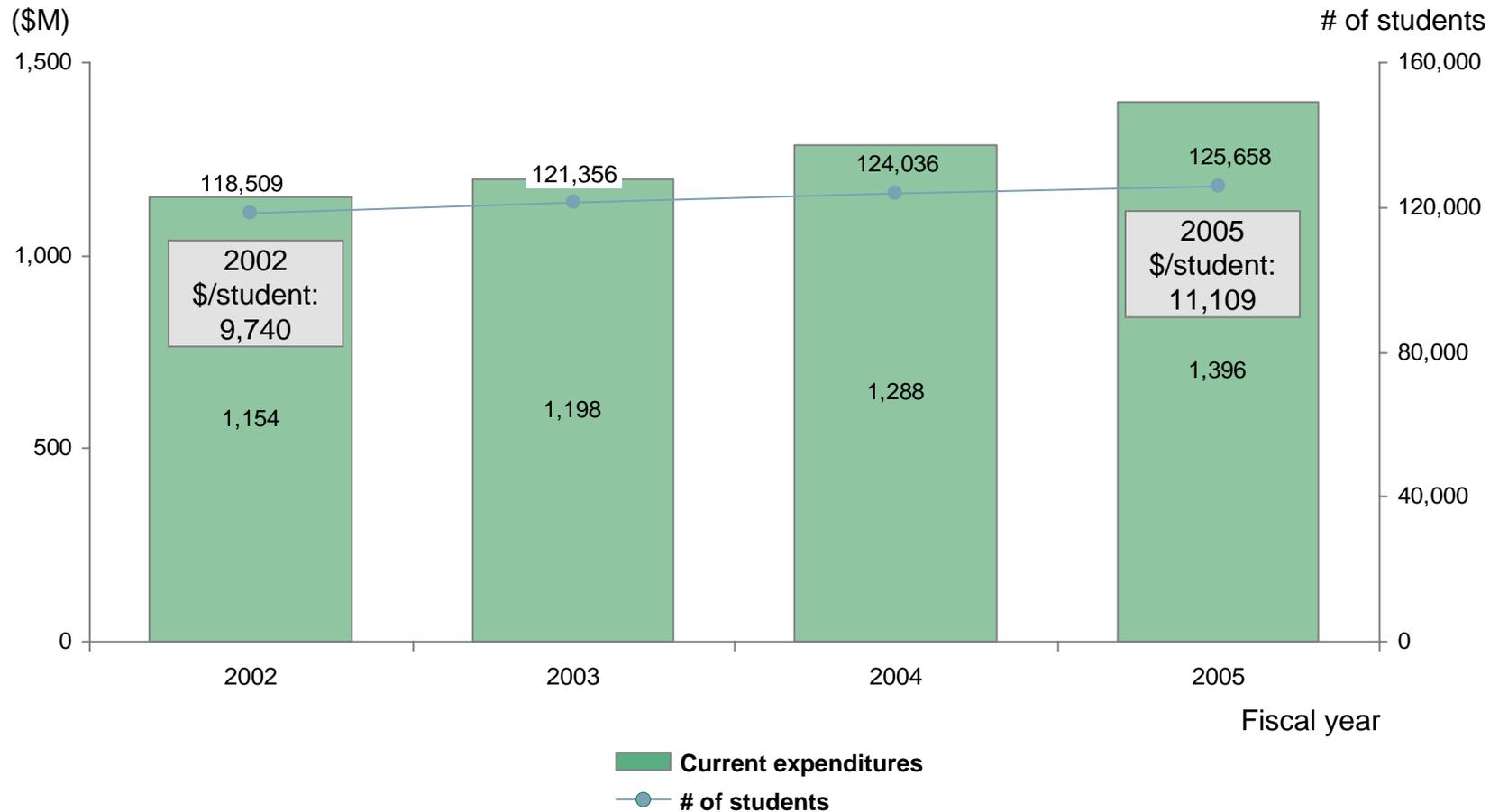


1. Includes revenues and non-revenue receipts 2. Includes facilities construction, debt service, and adult non-public expenditures  
 Note: Only spending within DOE considered here; revenue does not total expenditures due to DOE surplus in 2005  
 Source: Delaware DOE Report of Educational Statistics, 2005 Tables 38-47

# Current spending grew ~6.5% annually over four year period<sup>1</sup>

Spending growth has outpaced student population growth

Delaware current expenditures on pre K-12 education<sup>2</sup>

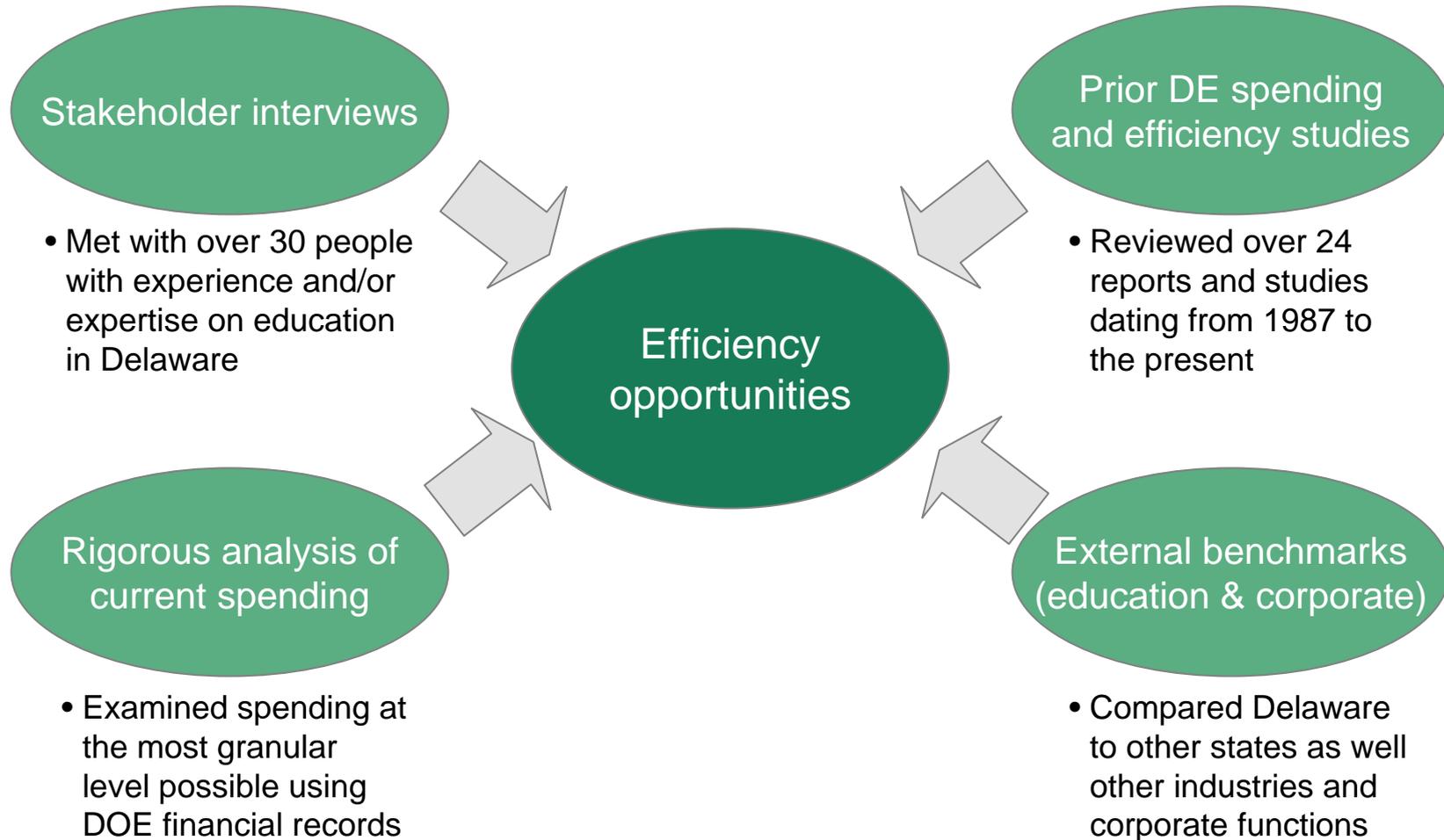


1. Nominal growth; numbers not adjusted for inflation; real growth rate is 3.7%/yr 2. Only DOE current expenditures are shown on this slide; additional current expenditures on pre K-12 education that were considered include (in 2005) \$21M in the Department of Health and Social Services, \$7M in Higher Education, and \$6M in the Department of Services for Children, Youth, and their Families; DOE capital expenditures were considered as well

Source: Delaware DOE Report of Educational Statistics, 2002-2005, Table 46

# Team evaluated opportunities through various lenses

Considering multiple inputs increases confidence that efficiency potential exists



**Interviews suggested many opportunities have been identified before, but have not been captured due to implementation challenges and/or political will**

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Appendix: Supporting analysis (separate)

# Team prioritized seven areas after initial analysis

Group also investigated “cross-cutting” themes/overall system recommendations



**Cross-cutting themes and overall system discussed in the “Administration and Central Support” section**

Note: “De-prioritized areas included Custodial / Maintenance, Technology, Food Service, Non-Core Activities, and Revenue Opportunities

# Significant annual savings opportunity (~\$86M+) was identified across the seven “high-priority” areas

Opportunity area	Addressable spend (\$M)	Opportunity size <sup>1</sup> (\$M)	Summary of efficiency opportunities
1 Transportation	80	9-12+	<ul style="list-style-type: none"> <li>Redesign bus contracting process</li> <li>Increase minimum bus retirement age</li> <li>Eliminate funding for non-public schools</li> <li>Eliminate specific provisions in budget bill</li> </ul>
2 Purchasing	178	15-25	<ul style="list-style-type: none"> <li>Formalize statewide coordination of the education purchasing function</li> </ul>
3 Energy	28	4-7	<ul style="list-style-type: none"> <li>Implement best practices in demand mgmt</li> <li>Explore statewide pooling of natural gas</li> </ul>
4 Benefits	311	0-29	<ul style="list-style-type: none"> <li>Pool local benefits purchasing</li> <li>Examine offering a more flexible compensation package of salary, health benefits, and pension</li> </ul>
5 Construction	195	31-48	<ul style="list-style-type: none"> <li>Centralize construction purchasing and design</li> <li>Exempt schools from prevailing wage requirement</li> </ul>
6 Admin and central support / system recommendations	85	25-34	<ul style="list-style-type: none"> <li>Increase magnitude of scale in funding formula</li> <li>Create broad shared services</li> <li>Evaluate impact of shared services and consider consolidation in year 5 of implementation</li> </ul>
7 DOE	50	2-3+	<ul style="list-style-type: none"> <li>Enhance purchasing efficiency at DOE</li> </ul>
<b>TOTAL</b>	<b>927</b>	<b>86-158+</b>	

1. Estimated annual savings after full, successful statewide implementation of recommendations. Construction savings would accrue to capital budget

## Some smaller opportunities exist in “de-prioritized” areas

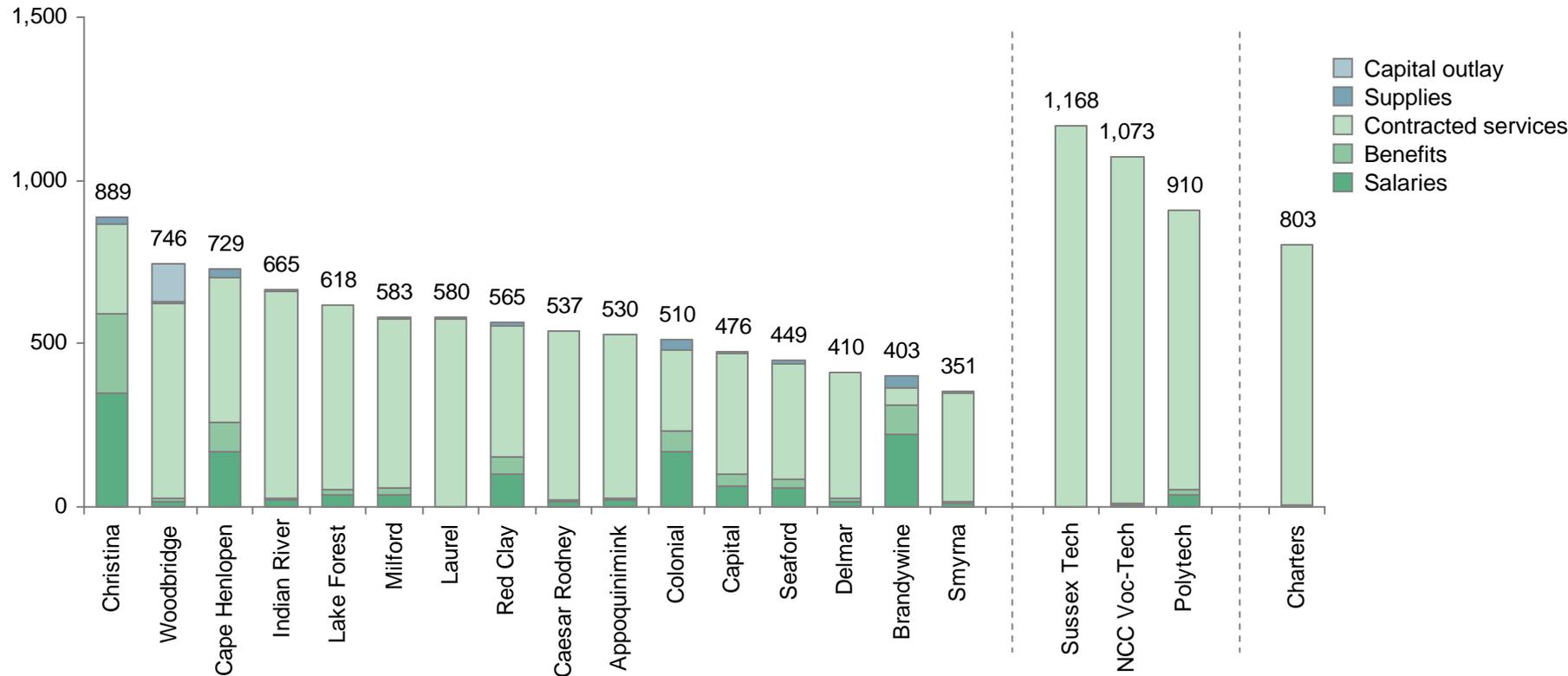
Opportunity area	Addressable spend (\$M)	Findings	Efficiency opportunities
<b>Custodial / maintenance</b>	82	<ul style="list-style-type: none"> <li>• Smaller districts lack the scale to hire all necessary full time maintenance personnel</li> <li>• Many districts forego preventive maintenance due to budget constraints</li> </ul>	<ul style="list-style-type: none"> <li>• Include maintenance functions in roles that may be shared among districts</li> <li>• Ensure that districts receive adequate funding to conduct necessary preventive maintenance</li> </ul>
<b>Technology</b>	25	<ul style="list-style-type: none"> <li>• Districts are highly independent in the purchasing and utilization of technology</li> <li>• In smaller districts, level of service limited by available resources</li> </ul>	<ul style="list-style-type: none"> <li>• Districts should leverage the expertise, resources, and scale of the Department of Technology and Information, and should seek pooled purchasing</li> </ul>
<b>(Eliminate) non-core activities</b>	3+	<ul style="list-style-type: none"> <li>• DE funds several activities that many do not consider core to public education <ul style="list-style-type: none"> <li>– eg, private school nurses, drivers ed</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Examine the cost-benefit tradeoff of financing these activities</li> </ul>
<b>Funding model and incentives</b>	N/A	<ul style="list-style-type: none"> <li>• In several areas, the current funding model acts as a barrier to cost efficiency</li> </ul>	<ul style="list-style-type: none"> <li>• Ensure that any necessary changes to the funding model are made to support other cost efficiency recommendations</li> </ul>
<b>Food service</b>	40	<ul style="list-style-type: none"> <li>• No significant cost inefficiencies found</li> </ul>	<ul style="list-style-type: none"> <li>• N/A</li> </ul>
<b>Revenue opportunities</b>	N/A	<ul style="list-style-type: none"> <li>• Some school districts outside of DE have created explicit strategies to pursue non-traditional funding sources, but these strategies produce marginal incremental revenue relative to the effort required</li> </ul>	<ul style="list-style-type: none"> <li>• If new revenue opportunities are identified, share best practices across districts</li> </ul>

# In FY05, DE spent ~\$80M total on student transportation

Contracted services accounted for the majority of spending

Total transportation expenditures per enrolled student, by category<sup>1</sup>

\$ per enrolled student



1. Special schools' expenditures are consolidated into district totals; Woodbridge capital outlay spent to procure buses / shuttles for transportation to / from alternative programs (Woodbridge is the fiscal agent for these programs)

Source: DOE 2005 Report of Educational Statistics

# How student transportation works today

## The basics

### ***Roles & responsibilities***

- The state formula is set up to fund 100% of to- / from-school transportation
- Funding is provided on a per-route basis (base allocation + per-mile allowance over 30 miles)
- Districts determine routes and manage system
- Districts request additional routes from DOE

### ***Contracting***

- Funds go to districts, which may operate buses themselves or pass funds through to contractors
- Bus contractors are paid according to a state formula; no bidding<sup>1</sup>
- About 2/3 of routes statewide are contracted out
- Almost 200 different contractors used across the state (many with 1 or 2 routes)

### ***Special cases***

- Charter schools receive funding at the lower amount of:
  - 80% of average cost per student for the vo-tech district in which the charter is located, or
  - actual bid costs from a publicly-bid external contract
- State provides \$3M in reimbursements to families with students in non-public schools
- Special rules, which add substantial cost and complexity, apply for low-income out-of-district choice students, special education students, and homeless children

1. This applies to districts (charter school transportation funding is described under “Special cases”)

Source: DOE Transportation Director

# Students become eligible for transportation through various means

	Eligible for school bus transportation				Ineligible
<b>Rule</b>	Live more than: 2 miles (7-12), 1 mile (K-6) from school <sup>1</sup>	Live within mileage, but eligible due to “unique hazard” on route to school	Rejected or not considered unique hazard, but specifically included by legislature	Special education students attending special schools	Live within: 2 miles (7-12), 1 mile (K-6) of school Choice students <sup>3</sup>
<b>Monitor</b>	Self-enforced by districts	5-member Unique Hazard Committee <sup>2</sup>	Legislature (Budget Bill)	Districts	Districts
<b>Number of students</b>	94,922	1,285	2,474	3,476	20,106 <sup>4</sup>
<b>Percent of total student population</b>	78	1	2	3	16

**84%**

**Delaware, at 84%, has one of the highest rates of student transportation in the country**

1. Includes children eligible for transportation under the McKinney-Vento Act 2. Consists of representatives from the Department of Transportation; the New Castle County Crossing Guard Division; Delaware Safety Council; Traffic Control Section, the Delaware State Police; and the Department of Education Associate for School Transportation (Chairman) 3. Low-income students outside of the district in which the school is located are eligible for transportation reimbursements 4. Calculated from 2006-2007 total student enrollment, including charter schools Source: DE DOE Transportation Office (numbers for 2006-2007 school year)

# Key findings

## Transportation

### ***Contracts and incentives***

- DE 4<sup>th</sup> highest among states in per-student transportation spending<sup>1</sup>
- Full state funding provides no incentive to districts and charters to save money, and no mechanism for contractors to compete on price
- Review of contractor terms reveals several places where funding exceeds likely cost to contractors
  - eg, interest allowance, salvage value, depreciation schedule
- State gives contractors 11% more to purchase buses than it pays for buses itself
- Almost 200 different contractors used across the state (many with 1 or 2 routes)

### ***Bus replacement***

- Delaware pays for bus replacement after 7 years and 100,000 miles at the earliest, or after 10 years (any mileage) or 150,000 miles (any age)
- The national average for school bus replacement is 14 years

### ***Non-public school funding***

- State gives \$3M to families of non-public school students for transportation
- Total amount is set by legislature and divided among eligible families
  - no correlation to actual cost of transporting children
  - no requirement that funds be used on transportation; can be used for tuition payments, contributions to private school's annual fund, etc.

### ***Budget bill exceptions***

- Over 2,400 otherwise ineligible students are provided transportation through explicit mention in the annual budget bill
  - number of such students has grown in recent years
- This process is independent of the Unique Hazards Committee, which was created to determine eligibility for bus service due to safety concerns

1. US Department of Education, 2004-2005  
Source: US Department of Education; *School Transportation News*

# Opportunities and estimated annual impact

Efficiency opportunities	Impact
<b>Redesign bus contracting process to provide incentives for districts to save money (several potential options):</b>	<b>\$1.6-4.6M+</b>
<ul style="list-style-type: none"> <li>• Change current funding formula<sup>1,2</sup>, OR</li> <li>• Eliminate funding formula and competitively bid routes and route management; consider multi-district contracts<sup>3</sup></li> </ul>	\$1.6-4.5M \$4.6M+
<b>Increase minimum bus retirement age to 10 years (or 150,000 miles or a nationally certified mileage standard for bus safety) to close gap with national average retirement age of 14 years<sup>4</sup></b>	<b>\$4.1M</b>
<b>Eliminate funding of transportation for non-public school students</b>	<b>\$3M</b>
<b>Empower Unique Hazards Committee to make final decisions on safety-based exceptions, and eliminate provisions in the budget bill that allow otherwise ineligible students to ride the bus<sup>5</sup></b>	<b>\$0.6-1.4M</b>
<b>Total</b>	<b>\$9.0-12.0M+</b>

1. Figures are an annual average of the total savings over 13 years 2. Three potential options valuated: a) decrease cost premium and increase salvage value estimate: cost premium = 5%, salvage value estimate = 12%; b) state buys buses at state bid rate and gives to contractor: no cost premium or salvage estimate, state finances bus over 7 years; c) replace capital allowance in formula with capital allowance payments for buses bought in year 1 plus annual profit payment equal to 55% of capital allowance provided under current funding formula 3. Figure is an annual average of the total savings over 5 years 4. Includes changes to cost premium (5%) and salvage value estimate (12%); figure is an annual average of the total savings over 13 years 5. This does not apply to homeless children who are provided transportation under the McKinney-Vento Act

# There are additional sources of value to consider

## **Improve efficiency of routes by relaxing current route structure constraints**

- Design routes without regard to district lines
- Adjust bell times to allow for double or triple runs
- Consider sharing the same buses and/or bus routes among district schools, charter schools, and/or vocational schools
- Provide common management of system across districts / state

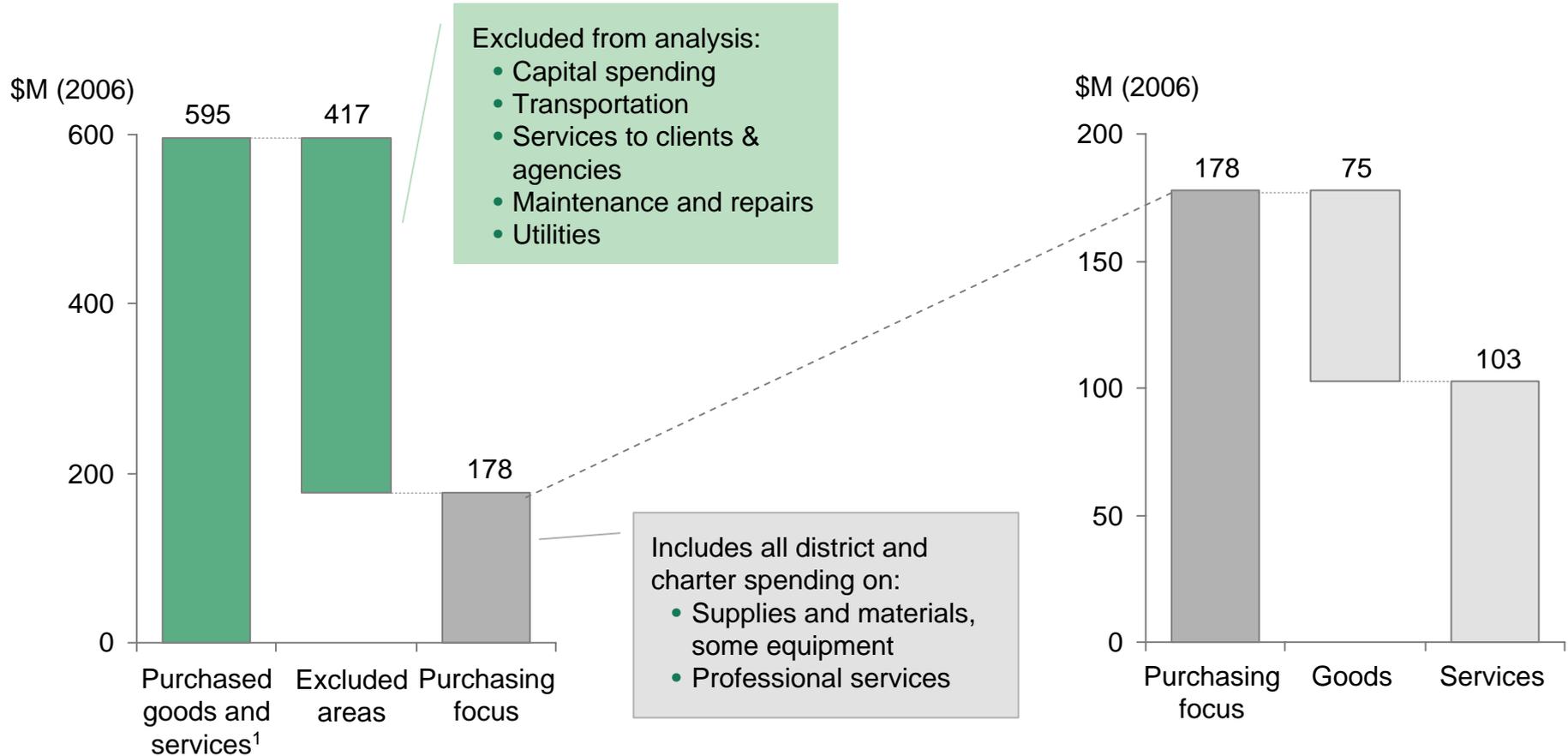
## **Consolidate special school transportation and run the system at the county or state level**

- Currently, the district in which a special school is located coordinates the transportation for students attending that school<sup>1</sup>
- No collaboration exists between special schools to optimize transportation of students residing in overlapping geographic areas

## **Standardize eligibility and ridership data reporting process across the state, using best practice methodologies from other states as a guide**

1. Most special schools draw students from an entire county, so the school's home district provides transportation across multiple districts

# Purchasing analysis focused on \$178M portion of total purchased goods and services



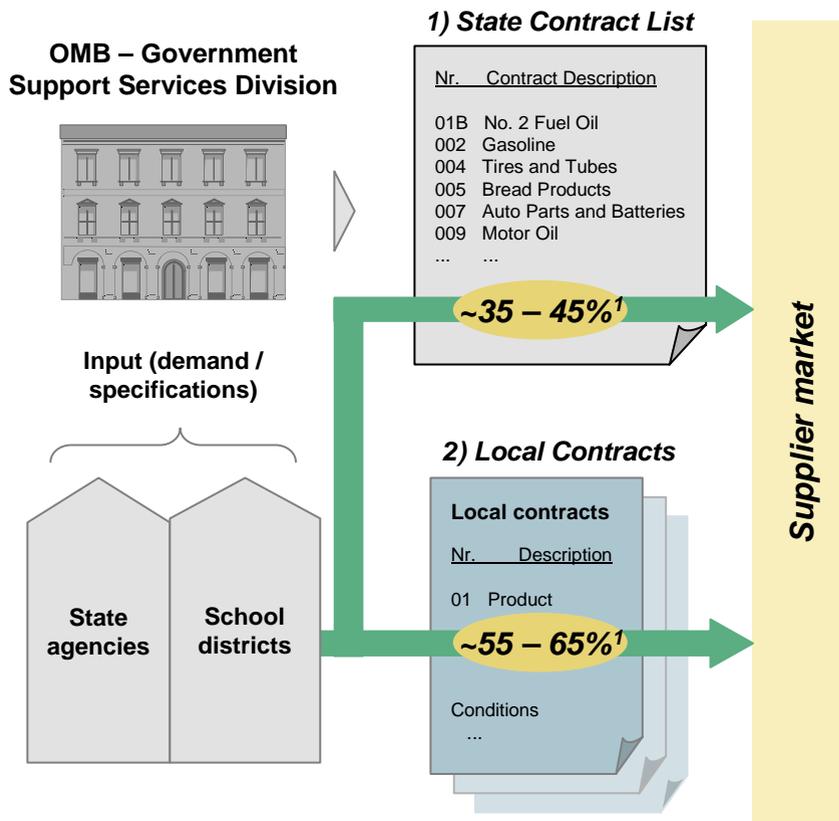
**Other purchased categories (eg, energy, transportation) included in other sections of our analysis**

1. Does not include salaries and benefits of instruction, instructional support services, and student support services, nor salaries and benefits of general administration and school administration

Source: Delaware DOE 2005 Report of Educational Statistics; BCG analysis

# How Purchasing works today

Districts and charters may purchase off of state contracts, or on their own



## Overview of the state contract list

- **Created and maintained by Government Support Services Division of OMB**
  - contracts cover needs of all state agencies – not specific to Education
  - currently ~120 contracts available online
- **School districts (and charters) not mandated to buy on these contracts**
- **No exhaustive tracking of contract usage**
  - suppliers report back on purchased volumes; information consolidated twice a year to identify active contracts
  - no comparison of state contract conditions vs. school districts' locally-negotiated contracts
  - contracts renewed annually almost automatically

1. Estimate  
Source: Interviews; BCG analysis  
Final report on efficiency opportunities

# Key findings

## Purchasing organization and processes

### **Districts and charter schools purchase as highly independent entities**

- Very little sharing of information, resources, or best practices
  - monthly business managers' meetings provide very loose, informal network
- Very limited “piggybacking” on other districts' contracts
- Very limited bundling/pooling of demand
- Neither DOE nor OMB has much authority with regard to school district purchasing decisions

### **District purchasing organizations vary widely, but tend to lack dedicated resources and expertise**

- Having a small purchasing organization in each district and charter school means high total purchasing spending relative to the sophistication of the overall purchasing organization
- Limitations acknowledged in survey of district purchasing managers

### **Use of statewide contracts varies widely**

- Some business managers claim to use statewide contracts 80-90% of the time, others use the list for a limited set of specific categories, and others use it whenever they don't have resources to bid themselves

### **Statewide contracts do not always provide the best terms**

- Contracts are general, updated infrequently, and have broad terms (eg, no guaranteed volumes)
- Districts sometimes able to negotiate better terms through supplier relationships, more specific terms (eg, volume guarantees, shorter contract durations)

**Considering size of system, there is room for improvement in the purchasing organization, processes, and expertise**

# Opportunities and estimated annual impact

## Efficiency opportunities

## Impact

### Formalize statewide coordination of the education purchasing function, balancing local ownership with optimized purchasing

- Establish a statewide education Purchasing Council, with representation from the state (OMB Gov't Support Services Division), districts, and charter schools
- For “commodities” (~80% of all purchasing categories, less instruction-related; eg, office supplies) establish state-level education-specific Central Category Managers<sup>1</sup> with oversight of the Purchasing Council. Require districts and charter schools to purchase on statewide contracts in these categories.
- For a few categories (local, instruction-related; eg, textbooks) create a Lead Buyer<sup>1</sup> Network at the district / charter level with oversight of the Purchasing Council. Require districts / charters to participate in the Lead Buyer Network.

### Professionalize the education purchasing function

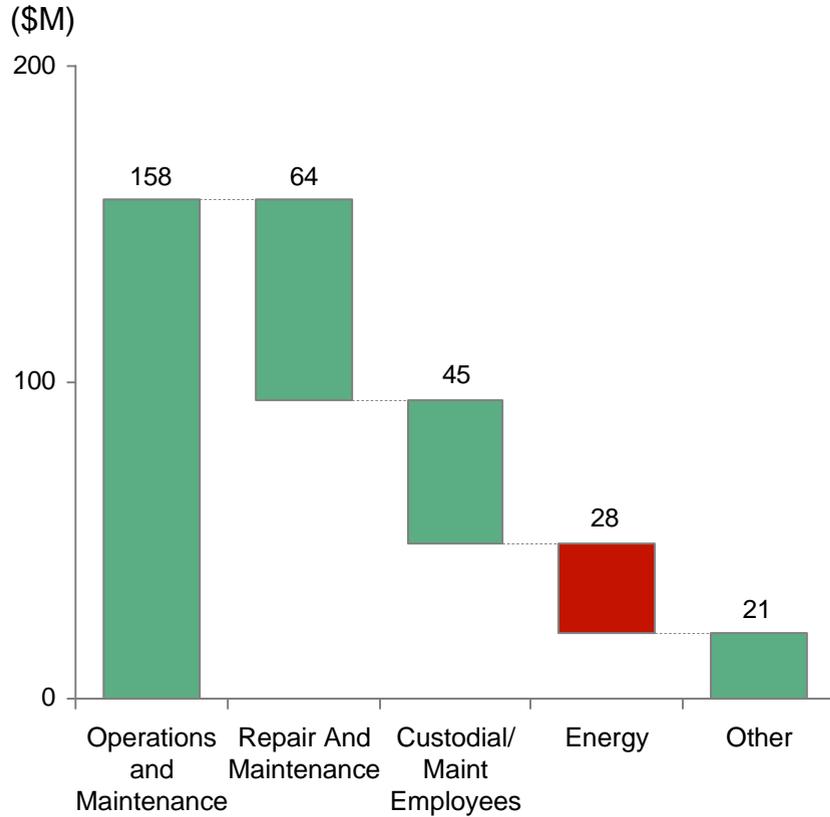
- Define procurement processes, including supplier selection and negotiation
- Develop system of metrics and incentives, and track performance
- Improve communication of strategies and best practices
- Develop state-of-the-art procurement tools
  - Establish a state-wide purchasing-related database for education (eg, suppliers, contracts, negotiation schedules, SME contacts, etc.)
  - Increase and improve the use of electronic interfaces (eg, eProcurement)
- Incorporate systems to ensure quality control and the highest service quality by building in a clear and transparent customer satisfaction process and the option to purchase outside of statewide contracts if a charter school, district, or DOE can document equal or better cost, service, and quality from a competing provider

**\$15-25M**  
**(9-14% of total spend)**

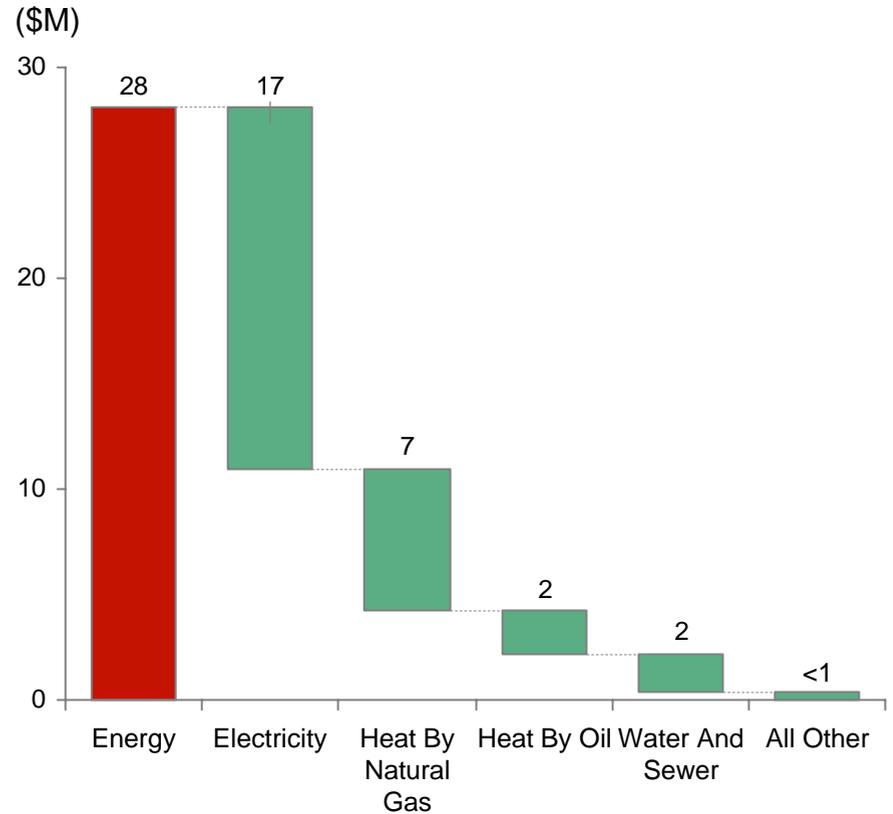
1. Central Category Managers and Lead Buyers perform several roles with oversight from the Purchasing Council: ensure communication across districts; bid, negotiate and own contracts; track compliance; ‘one-face’ to the supplier market

# Delaware spends \$28M annually on Energy

Energy is third largest component of all Operations and Maintenance expenditures...



...and Electricity accounts for over 60% of this spend



# Key findings

## Energy

### **A wide disparity exists among districts in total energy costs per square foot**

- Highest-spending district is 98% higher than the lowest-spending district

### **Many districts do not completely implement best practices in demand management and energy efficient investments that are in use by other districts, for example:**

- Establish an energy policy with specific goals and objectives
- Conduct energy audits in all buildings to identify energy-inefficient units
- Make proactive minor investments that have rapid payback (eg, motion detectors, modulating boiler controls)
- Understand the payback economics of larger investments (eg, energy efficient window replacement) and make positive NPV investments whenever possible

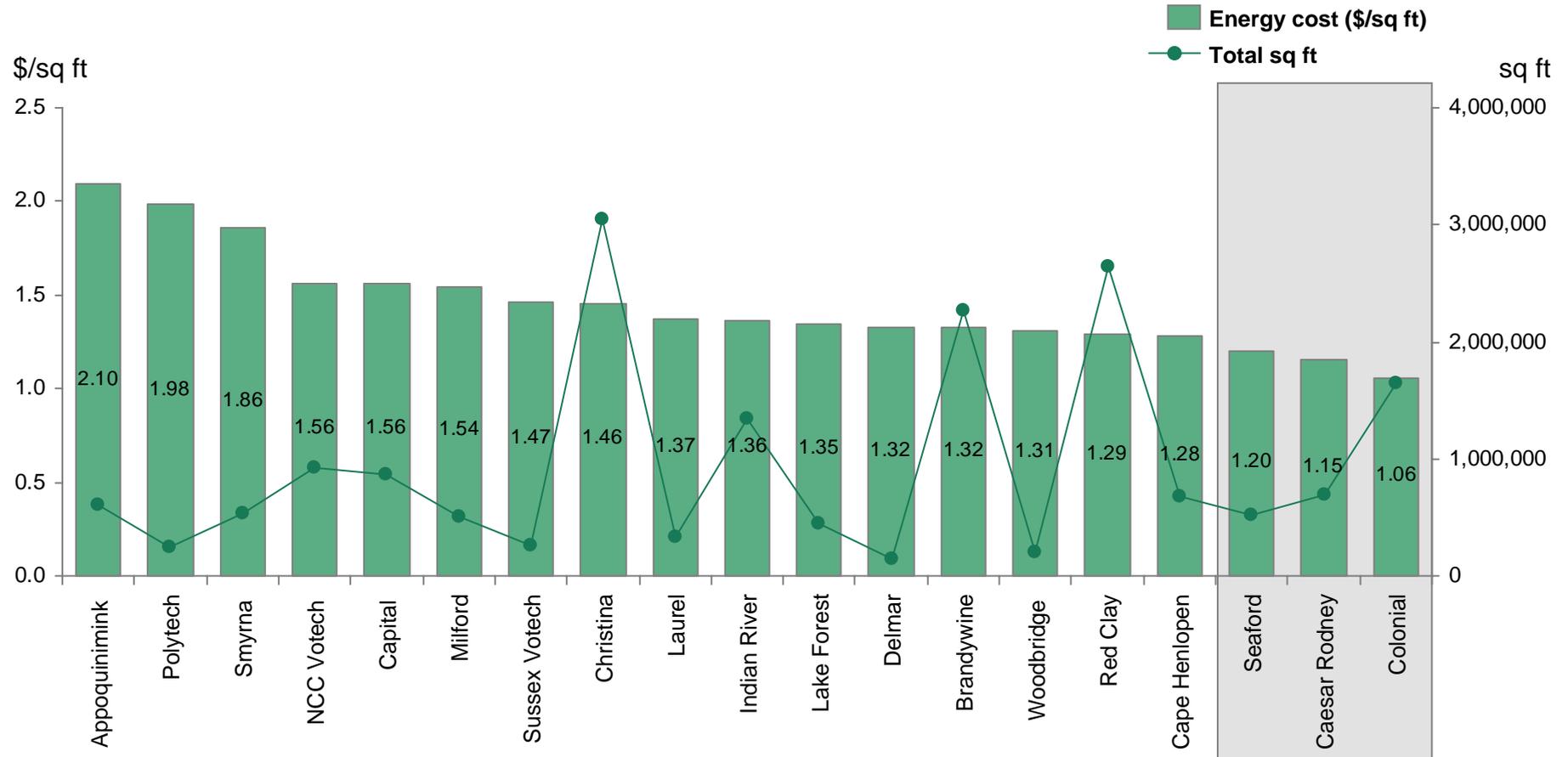
### **Districts in general view their minor capital budget as inadequate for energy investments**

### **Many districts are not comfortable dealing with an energy service company (ESCO) to finance investments as they are unaware or skeptical of the ESCO's abilities**

### **While electricity is being purchased by most districts in a pooled partnership (negotiated by the state), natural gas is still being purchased separately by each district**

# Energy costs per square foot vary widely among districts

Total annual energy costs<sup>1</sup> per sq ft, by district (\$/sq ft)



**Bringing all districts' costs down to the average of the lowest three would result in \$4.7M annual savings**

1. Includes electricity, natural gas, and heating oil

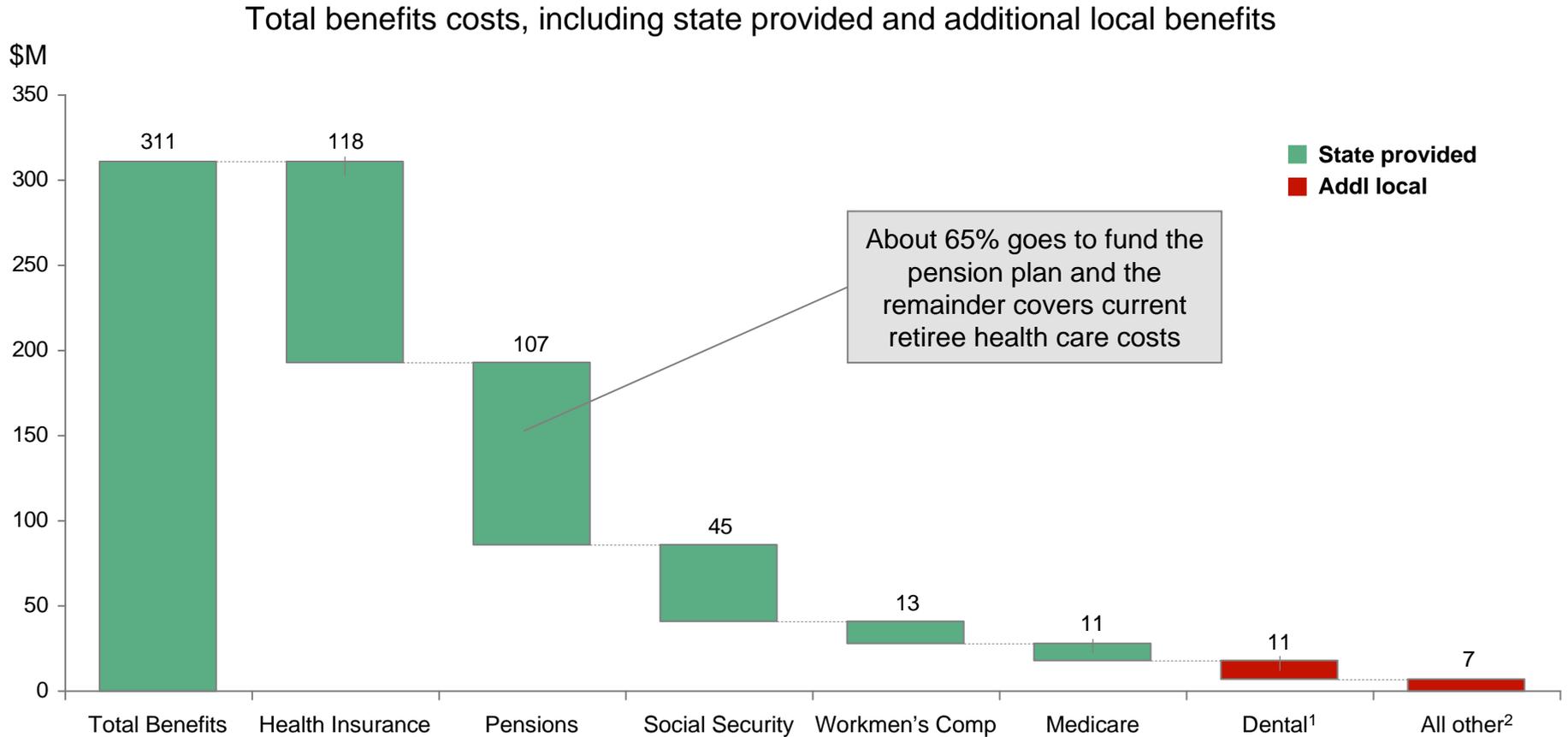
Note: Costs may vary due to renovations, district office sizes, existence of air conditioning, and use of schools for other than educational purposes; square footage of some buildings estimated  
Source: 2006 DOE object code level expenditures; Delaware DOE 2005 Report of Educational Statistics; DOE capital improvement documents; BCG analysis

# Opportunities and estimated annual impact

Efficiency opportunities	Impact
<p><b>Implement best practices in demand management, such as those implemented in Seaford and Colonial, through the following means:</b></p> <ul style="list-style-type: none"> <li>• Formalize the sharing of best practices among districts to develop a statewide standard of energy management, and require districts to adopt this standard</li> <li>• Create a statewide role similar to the newly filled Building Support Systems Engineer at OMB (or determine whether possible to share the resources in place there) in order to:               <ul style="list-style-type: none"> <li>–study energy usage across districts and maintain / update energy standards</li> <li>–advise districts on energy demand management and other areas of energy efficiency</li> <li>–negotiate on behalf of the districts with an energy service company (ESCO) as appropriate to provide funding to districts for necessary capital investments</li> </ul> </li> </ul>	<b>\$3-5M</b>
<p><b>Continue to explore the statewide pooled purchasing of natural gas in a similar manner to that currently used for electricity</b></p>	<b>\$1-2M</b>
<p><b>Total estimated reallocation opportunity</b></p>	<b>\$4-7M</b>

# Delaware spends ~\$311M on education employee benefits

Majority of spending is tied to State employee plans; only ~\$18M is for additional local benefits



1. Local benefit (not required by state) 2. Includes life, disability, and unemployment insurance; prescription plans; and other unclassified costs  
Source: 2006 DOE object level expenditure data; BCG analysis

# How Benefits work today

**The state of Delaware provides a certain level of benefits for all state employees, including educators**

**State funding is given to districts for 100% of the “employer portion” of health care benefits and a pro-rated (~70%) portion of the following rate-driven benefits, based on salary costs:**

- FICA
- Medicare
- Unemployment
- Pension

**Districts must cover the remaining ~30% of the rate-driven benefits using local funds<sup>1</sup>**

**Just as they may pay a higher salary than required by the state, districts also have the option to offer additional benefits...**

- ...of which they must cover 100% of the cost

1. Certain federal and state funds, such as the Academic Excellence block grant, may also be used to cover this remaining 30%, though the majority is local funds

Source: Conversations with experts at DOE and OMB

# Key findings

## Benefits

**Delaware spends about 40% of educators' salaries on benefits, compared to the national average of 31%**

- This equates to an additional \$66 million in annual expenditures

**On top of the generous statewide package, many local school districts provide additional benefits to attract employees**

- Represents 2% of salaries on average, but varies widely across districts

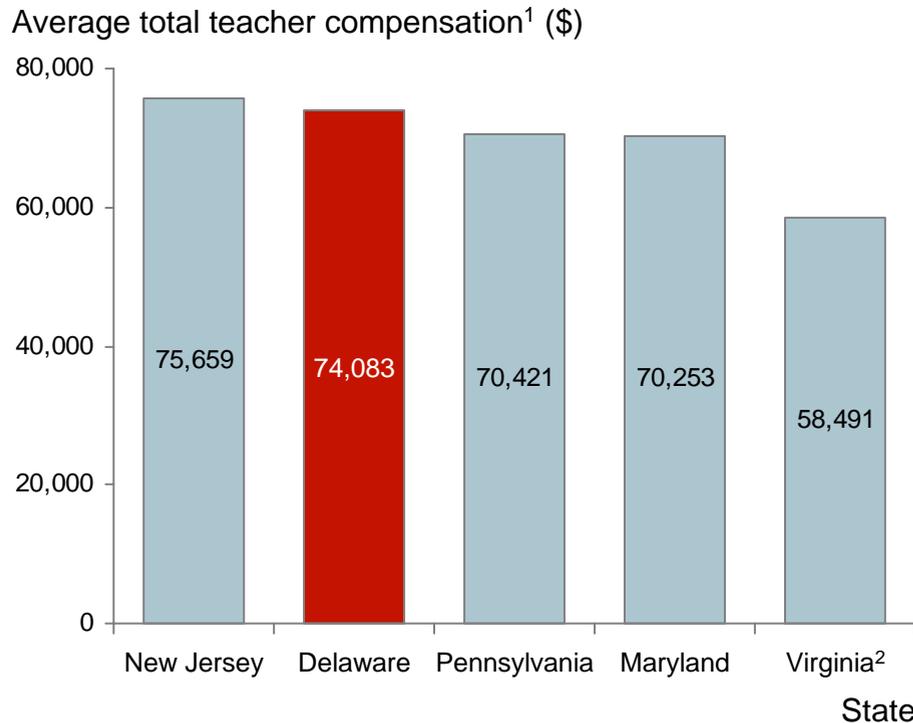
**State has contracted with vendors to offer additional benefits (eg, vision, dental) for employees, with employees paying 100% of the cost**

- Some districts provide additional benefits by paying the employee portion of the state-negotiated benefits
- Several districts use benefits consultants and report the ability to achieve better rates than the state with the same or better coverage

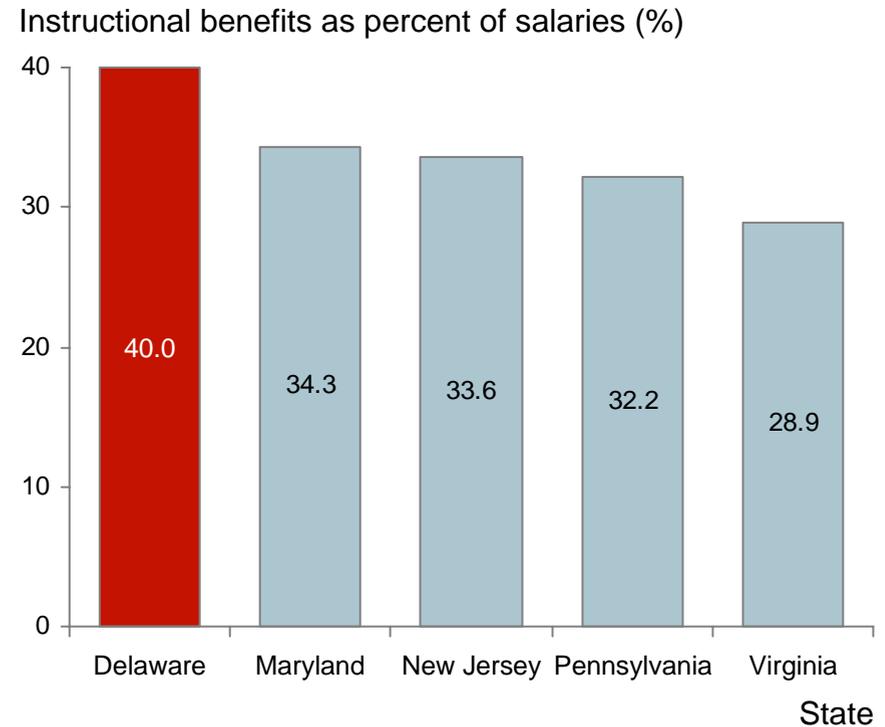
**Delaware's defined benefit pension plan has ~\$6B of assets to cover its ~\$6B liabilities (fully funded), but estimated retiree health care liabilities are ~\$3B, with no corresponding assets**

# Delaware's spend on benefits is highest in the region

**Delaware's total compensation package is very competitive regionally...**



**...and Delaware's benefits portion of the salary is the highest of any of its neighbors**



**Delaware's average total compensation is more than 5% higher than Pennsylvania, Maryland**

1. Includes 2005 average salary plus 2005 benefits percentages 2. Includes extra-duty pay  
Source: American Federation of Teachers 2005 Survey and Analysis of Teacher Salary Trends; US DOE Revenues and Expenditures for Public Elementary and Secondary School Districts, 2005; BCG analysis

# Opportunities and estimated annual impact

## Efficiency opportunities

## Impact

**Given that Delaware’s educator salaries must be competitive regionally and with other professions, the Public Education Compensation Committee should incorporate into their work a full study of compensation options to both enhance educator recruitment and retention and help to secure the long-term viability of the educator compensation system**

**Topics addressed should include, but not be limited to:**

1. Exploring more flexible compensation options that will allow employees, for example, to accept a higher salary for a reduction in benefits that offsets the expense<sup>1,2</sup>
2. Exploring offering a defined contribution plan as an option to the current defined benefit plan
3. Conducting an in-depth analysis of local benefits with the potential of pooling the demand to negotiate better rates

**The committee should request an extension of their current timeline in order to complete this work, but should complete a preliminary report by no later than May 1, 2008**

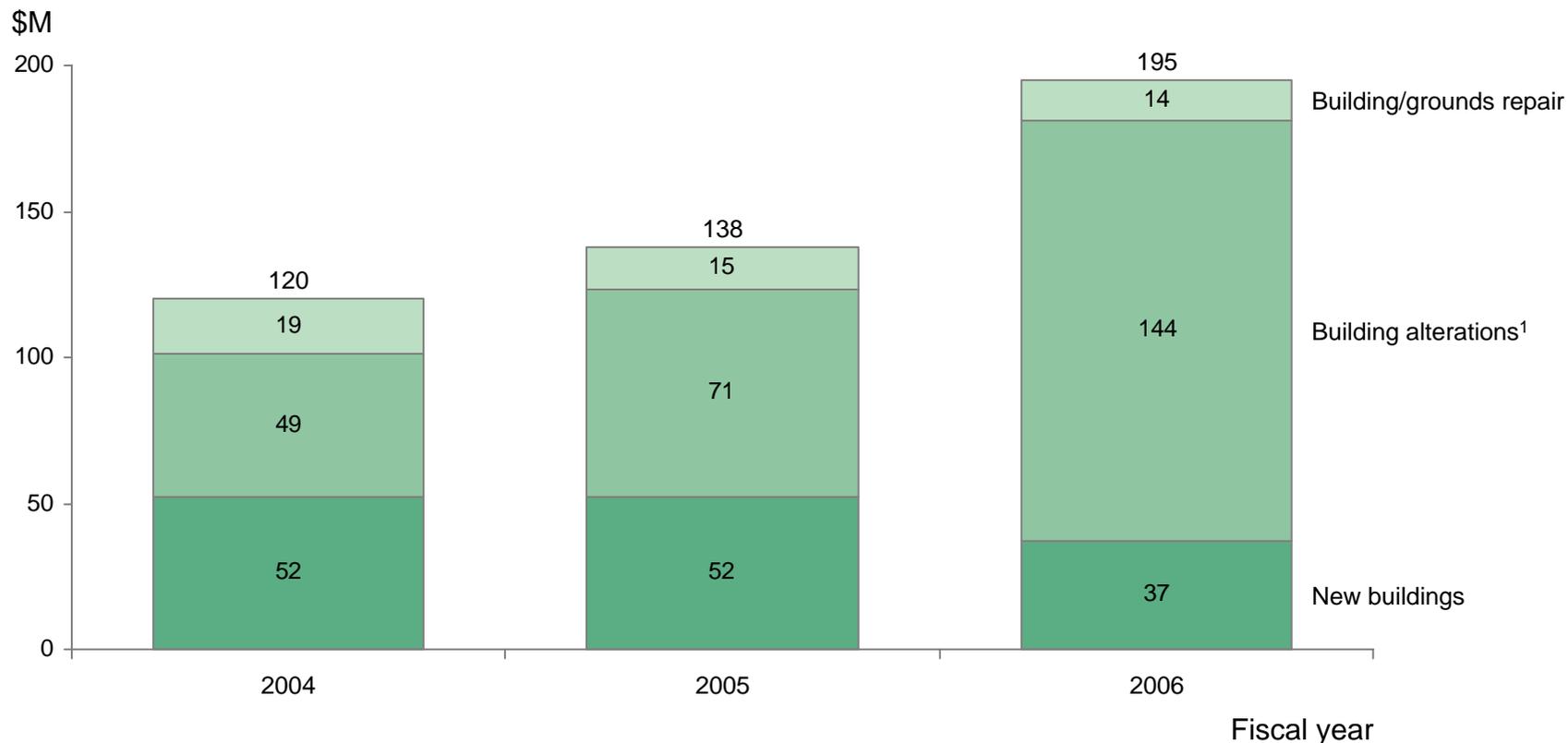
**\$0-29M<sup>3,4,5</sup>**

1. With the caveat that employees will be required to have some form of health insurance (either through the State or someone else) 2. Could be some negative second order effects, including: increased insurance costs per plan participant due to lower number of participants, increased administrative costs to manage a flexible plan, and the possibility that a higher proportion of younger workers may accept a reduction in benefits, causing an increase in costs for the remaining population 3. Assumes that Delaware is able to overcome up to 68% of the difference between its benefits costs and Maryland’s (the next highest paying regional competitor) through savings in health care and pension benefits; \$6M savings (or 15% of the Delaware-Maryland gap) is equivalent to 10% of employees accepting additional compensation whose total costs are equal to 66% of their foregone benefits cost; \$28M savings (68% of the Delaware-Maryland gap) is equivalent to 30% of employees accepting additional compensation whose total costs are equal to 50% of their foregone benefits cost 4. Pooling of local benefits represents up to a \$1M opportunity 5. Dollar impact does not include potential positive impact on future solvency of retiree health care system

# DE had nearly \$200M of capital outlay for education in 2006

Represented ~50% increase over 2005, largely due to building alterations

Total capital outlay for new buildings, building alterations, and building/grounds repair



1. Includes renovations and additions

Source: Delaware DOE object code data, 2004, 2005, and 2006

# How Construction works today

**For a major construction project, district develops a concept (eg, new building, renovation) and approaches DOE for approval**

- If DOE approves, state gives district a certificate of necessity (CN) authorizing the project and committing to pay for 60-80%<sup>1</sup> of the state-approved costs

**District then holds a referendum asking voters to fund remaining 20-40% of the DOE-approved cost of the project and 100% of any cost above this**

- If voters approve the measure, DOE works with OMB to get money in the budget and then gives it to the district staged over a period of several years

**District then bids out the project to a contractor, who is required to pay state-mandated “prevailing wage rates” to workers for any construction project greater than \$100,000<sup>2</sup>**

1. Amount varies based on district wealth 2. Prevailing wage rates also required for maintenance or renovation projects greater than \$100,000

# Key findings

## Construction

### **There is little standardization at the state level for major capital projects, in either school building planning / design or equipment / component specification**

- As a result, projects likely incur additional unnecessary design and purchasing costs
- One district completed a six-year capital project at ~37% below budgeted costs by adopting some standardization and leveraging the district's buying power for equipment purchases for multiple school buildings at the same time

### **Requiring state-mandated prevailing wage rates results in districts paying 20-40% more<sup>1</sup> for certain projects**

- Ohio saved an average of ~11% on total school capital projects by exempting schools from the state prevailing wage rate requirement (represented almost \$500M over 5 years)

1. District facilities managers' estimates, depends on type of project  
Source: Interviews; BCG analysis

# Estimated capital savings of \$21-34M annually if schools exempted from prevailing wage rate requirement

	Total annual expenditures <sup>3</sup> (\$M)	Expected savings	
		DE facility mgr estimates <sup>4</sup> (\$M)	If same savings % as Ohio <sup>5</sup> (\$M)
New school construction	37	2	1
School building addition <sup>1</sup>	48	10	9
School renovation	96	19	10
Building/grounds repair <sup>2</sup>	14	3	1
<b>TOTAL</b>	195	34	21

1. Assumes school additions are 33% of school renovation expenditure 2. Assumes 50% of minor cap budget used for projects greater than \$15,000; Ohio number conservatively assumes same rate as for school renovation 3. From 2006 4. Estimates of savings in new construction, addition, renovation, and repair were 5%, 20%, 20% and 40%, respectively 5. Savings seen in new construction, addition, and renovation were 1.2%, 19.9%, and 10.7%, respectively; repair is conservatively assumed to be the same as renovation (11%)  
 Source: SB 102 Report: The Effects of the Exemption of School Construction Projects from Ohio's Prevailing Wage Law; Discussions with DE facilities managers; BCG analysis

# Opportunities and estimated annual impact

## Efficiency opportunities

## Impact

**Leverage purchasing power of the state to reduce both design and materials costs of major construction and renovation projects by creating a state level construction board with the ability to:**

**\$10-14M**

- Work with districts to determine major construction and renovation needs over a period of about 5 years
- Negotiate with contractors / architects for long-term statewide projects
- Work with districts to set statewide standards on design and construction materials and components
- Create and maintain detailed modular design specifications (a “kit of parts”) that can be used by each district in constructing unique schools but with some standardization at the modular level in both design and materials
- Contract to conduct large scale purchasing of commodities (eg, steel) and other materials (eg, boilers) for delivery when needed to the appropriate district

**Evaluate an exemption of public schools from prevailing wage rate requirements for construction, renovation, and maintenance**

**\$21-34M**

- Conduct a trial of the exemption
- After the trial has concluded, study and adjust the program based on realized impact, including cost savings, building quality, and overall impact on construction wage rates in Delaware

**Total estimated reallocation opportunity**

**\$31-48M**

## There are additional sources of value to consider

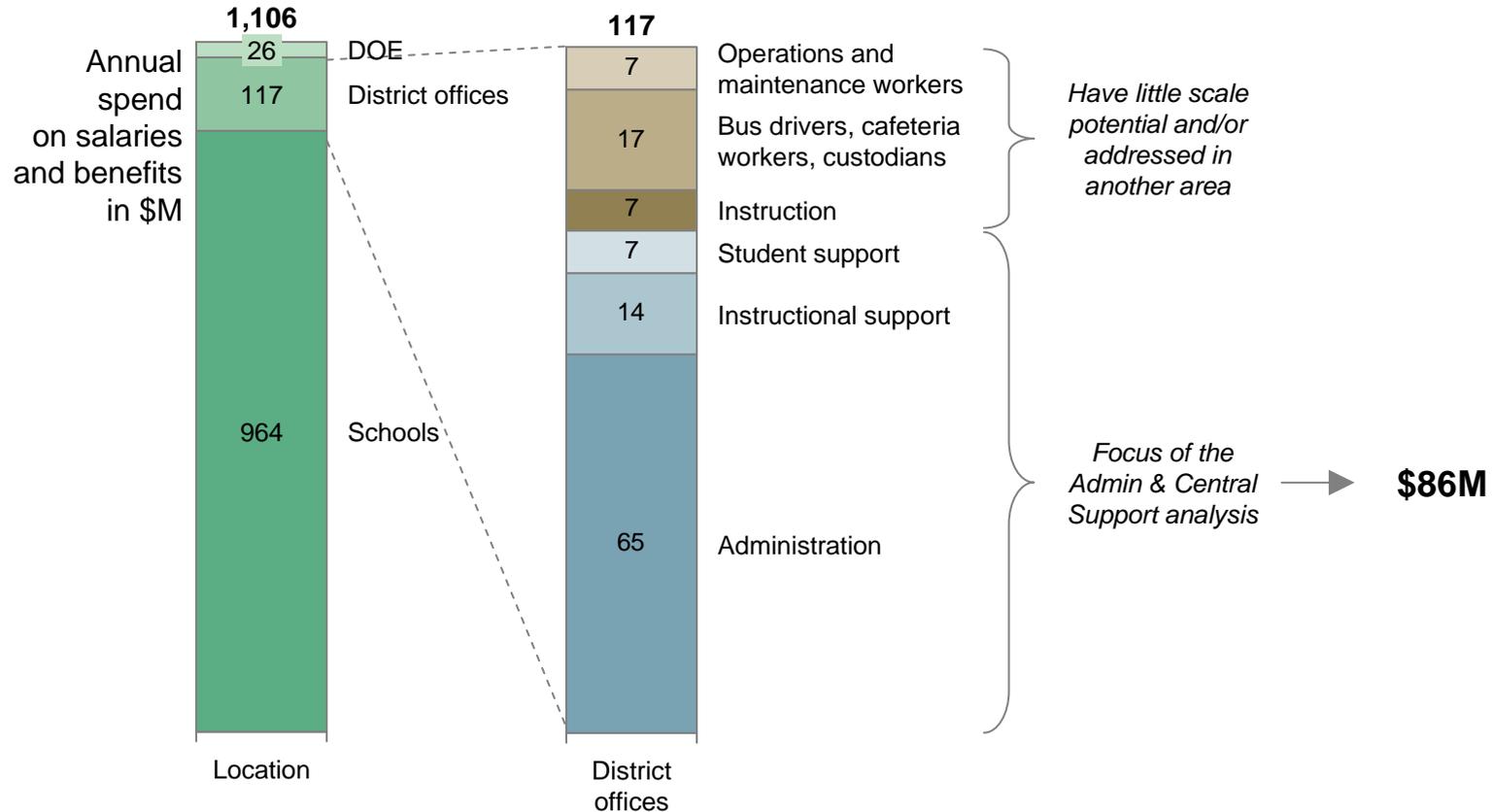
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**Evaluate the number of approvals and inspections required for school building construction by multiple state and local agencies and eliminate any that are unnecessary or redundant**

**Evaluate the method by which capital projects are or should be funded for districts and charter schools, including the timing of cash flows, assumed interest rates, financing, and whether certain expenditures are more appropriately handled in the operating budget**

# Admin and Central Support ~\$86M in addressable spend

Focused on areas that might benefit from shared services and/or district consolidation



**Administration and oversight functions present an opportunity for savings through economies of scale**

Note: District admin spend also includes 4 supervisor positions employed at the school level. Benefits for each employee are calculated using the average benefit/salary ratio for a given district  
Source: Personnel information retrieved by Director of Financial Management (Sept 2007); BCG analysis

# Key findings

## Admin and central support / overall system

### **Current funding does not encourage larger districts to capture scale benefits within administration**

- The unit formula funds district administration largely on a flat per-student basis
- Although the unit formula assumes very little scale in school district administration (96%), in practice districts are able to achieve greater scale (90%)
- Administrative functional areas within private industry operate at even greater efficiency (65-85% scale)

### **Scale of the entire Delaware public education system can be better leveraged with increased district cooperation and/or reorganization**

- Districts of increasing size can allocate proportionally fewer personnel to areas such as HR and Finance, and thus can spend more on instruction-related activities
- Shared services can reduce spend by pooling administrative functions across multiple districts
- District consolidation can enable even greater savings but would require significant changes in school district governance

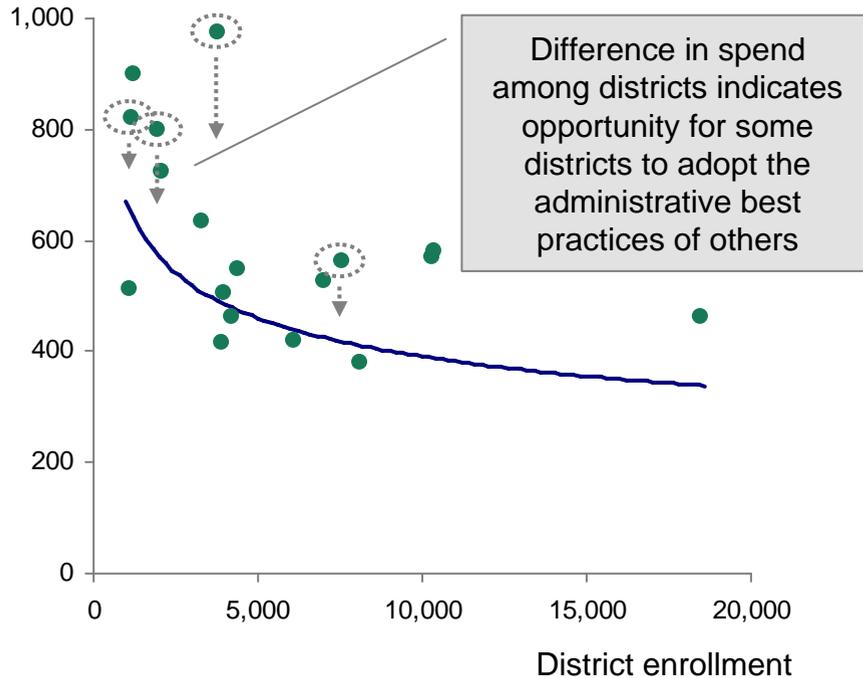
### **Increased cooperation among districts will not only lower administrative spend, but also enable increased efficiency across many other functional areas**

- Cross-district standards and support should systematize processes, thus producing an environment equipped to implement other cost efficiency recommendations (in transportation, purchasing, energy, and construction) and realize the full value of the savings
- In addition, a more coordinated system will facilitate more rapid implementation and easier tracking of all future best practices

# District office spend analysis points to two means for capturing savings

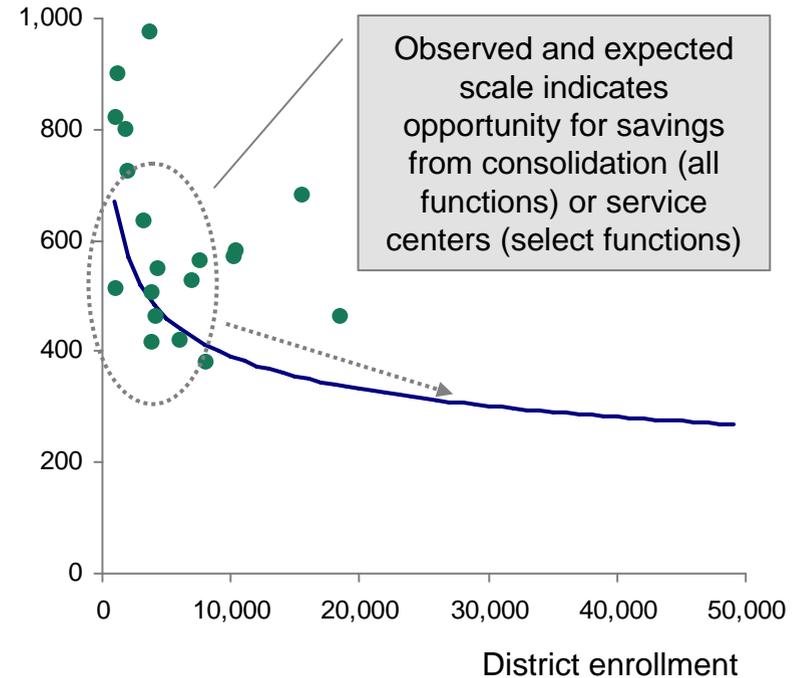
## Meeting best practice efficiency

Administration spend (\$/student)



## Capturing scale efficiency

Administration spend (\$/student)



Note: Scale curves are fit to Indian River School District with an 85% scale  
Source: Personnel information retrieved by Director of Financial Management (Sept 2007), BCG analysis

# DE must act to capture scale and enhance coordination

Three key options are available

Option	Description	Considerations
<div style="border: 1px solid gray; background-color: #e0e0e0; padding: 10px; text-align: center; width: 100%;"> <b>Cooperation</b> </div>	<ul style="list-style-type: none"> <li>Put mechanisms / incentives in place that encourage the districts to more actively collaborate in target areas</li> </ul>	<ul style="list-style-type: none"> <li>Least “disruption”</li> <li>Must figure out what to do differently to produce more cooperation than occurs today</li> </ul>
<div style="border: 1px solid gray; background-color: #c0e0c0; padding: 10px; text-align: center; width: 100%;"> <b>Shared Services</b> </div>	<ul style="list-style-type: none"> <li>Extract “high scale” functions into one or more shared services centers and aggressively promote / mandate district reliance on them</li> </ul>	<ul style="list-style-type: none"> <li>Preserves district “autonomy”</li> <li>Difficult to mandate use of centers</li> <li>Need robust service level agreements between centers and districts</li> </ul>
<div style="border: 1px solid gray; background-color: #fff9c4; padding: 10px; text-align: center; width: 100%;"> <b>Consolidation</b> </div>	<ul style="list-style-type: none"> <li>Pursue consolidation, ranging from:               <ol style="list-style-type: none"> <li>consolidation of smallest districts</li> <li>county-based districts</li> <li>a single statewide district</li> </ol> </li> </ul>	<ul style="list-style-type: none"> <li>Greatest disruption in implementation</li> <li>Simplest resulting structure, with ability to scale in all functions (not just some)</li> <li>May have some savings offset (level-up)</li> <li>Must address bureaucracy concerns</li> </ul>

**Current level of cooperation is insufficient; shared services and consolidation must be considered to realize savings**

# Limited cooperation thus far and lack of readiness to consolidate dictate a move first towards shared services

Option	Evaluation
<p><b>Cooperation</b></p>	<p>Districts currently cooperate on a limited basis and are free to cooperate more, but a new strategy is required to realize significant savings</p>
<p><b>Shared Services</b></p>	<p>Delaware is prepared to act on shared services, but savings will only be obtained if the State and districts are dedicated to transformational change</p>
<p><b>Consolidation</b></p>	<p>While consolidation results in a simpler organization structure than shared services (ie, fewer districts and no new service entities), there are potential drawbacks such as diminished savings due to leveling up salaries and reduced community ownership</p>

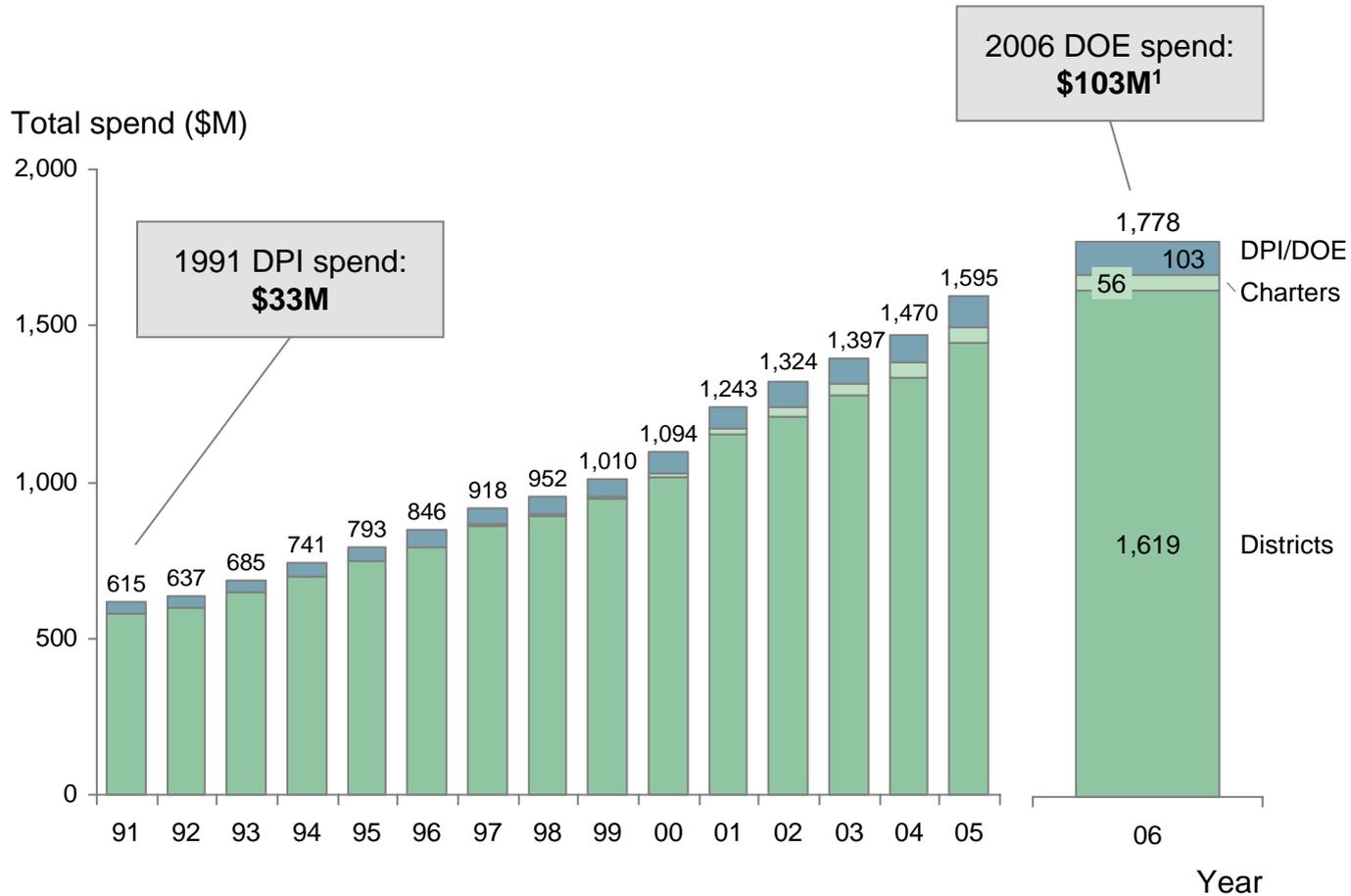
# Opportunities and estimated annual impact

Efficiency opportunities	Impact
<b>Increase magnitude of scale in the funding formula by providing more incentive for larger districts to drive scale efficiencies</b>	<b>\$0.4-2M</b>
<b>Create broad shared services</b>	<b>\$25-34M<sup>1</sup></b>
<ul style="list-style-type: none"> <li>Shared services should start around a few key scalable functions (eg Purchasing, HR, Finance, Transportation)</li> <li>To realize the full potential savings, these services must be expanded across all other scalable district operations (eg Facilities &amp; Operations, Instructional Support)</li> <li>Ensure full consideration of regional and/or statewide shared services among districts and charter schools by requesting DOE to convene a committee not later than March 1, 2008 to fully research shared service models and to develop a business plan for implementation. This business plan should be completed by September 1, 2008</li> </ul>	
<b>Measure impact of shared services in year 5 of implementation, and consider district consolidation at that time</b>	<b>\$39-42M<sup>2,3</sup></b> <i>(\$21-22M w/ level up<sup>4</sup>)</i>
<b>Total estimated reallocation opportunity</b>	<b>\$25-34M<sup>5</sup></b>

Note: All savings are based upon an 85% scale curve for administration spend that was fitted to match Indian River current spend/student. In addition, an 85% scale curve for instructional support spend was determined by fitting the curve to the lowest half of districts in spend/student. Savings are expected in student support, but because of the low correlation between district size and spend/student, no scale was applied and these savings were not estimated

1. \$25M assumes one service center serving each county; \$34M assumes a single service center 2. Potential impact of consolidation assuming no prior savings from implementation of shared services and not accounting for any cost of leveling up of salaries 3. \$42M assumes New Castle, Kent, Sussex, and vocational districts; \$39M assumes two districts in New Castle County 4. Estimated net savings when leveling up total teacher compensation 5. Includes the impact of full shared services implementation, which is inclusive of the impact of increasing the magnitude of scale in the funding formula. Does not include the impact of potential district consolidation

# DOE spend has tripled in the past 15 years, but has remained at ~6% of total education expenditure

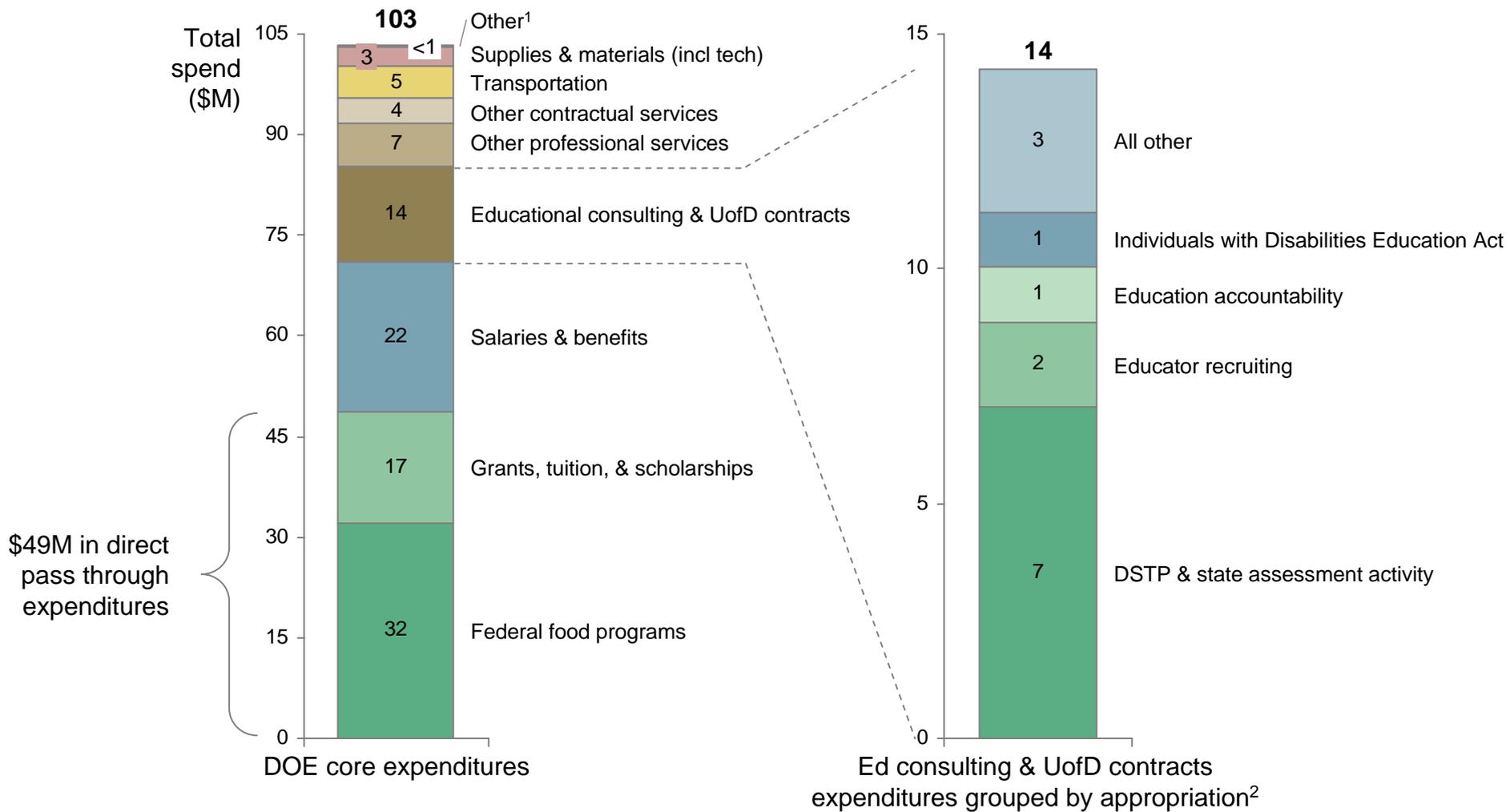


1. Exclusion of federal food programs, grants/tuition, and transportation results in an addressable spend of \$50M

Source: Annual financial reports from 1991-2006

# DOE expenditures can be grouped by expense code

Classifying each expense type by funding appropriation gives another level of detail



1. Includes \$255K in travel expenses 2. These expenses are educational consulting / UofD contracts only; there are other expenditures for each of these appropriation categories  
 Source: 2006 DOE expenses by appropriation by object code, provided by Director of Financial Management

# Key findings

## DOE

### **Growth of the DOE has kept pace with the total education budget**

- DOE spend is currently 6% of the education budget and has been the same percent for the last 15 years

### **DOE spends \$103 million on core programs**

- \$48M was funded with federal money, \$55M with state money
- Approximately half of the recorded expenditures were in the form of pass-through money (\$32M in federal money for food service; \$17M in grants, tuition, and scholarships)

### **Core DOE programs are primarily supported by expenditures of:**

- \$22M in salaries and benefits
- \$14M in educational consulting fees and UD contracts
- \$7M in other professional services fees (eg, computer consulting services)
- \$4M in non-professional service contracts (eg, office space leases, telecommunications, printing)
- \$3M in supplies and materials (includes computers and software)

### **Procurement strategies applied to districts could generate savings if implemented for purchasing of goods and services within DOE**

# Opportunities and estimated annual impact

Efficiency opportunities	Impact
<p><b>Explore efficiency opportunities in DOE travel spending</b></p> <ul style="list-style-type: none"> <li>• Demand management (including greater use of teleconferencing), systematic supplier review, establish a rigorous compliance process</li> </ul>	<p><b>\$25-40K</b> (10-15%)</p>
<p><b>Implement purchasing recommendations for all other goods and services obtained for DOE core programs</b></p> <ul style="list-style-type: none"> <li>• May require changes or exceptions to regulations governing state agency purchasing in order to achieve full efficiency</li> </ul>	<p><b>\$1.6-2.8M<sup>1</sup></b> (7-12%)</p>
<p><b>If service centers are created, ensure alignment with DOE</b></p> <ul style="list-style-type: none"> <li>• Ensure personnel and services are allocated efficiently among central DOE, service center, and district locations; avoid duplication and ensure alignment of efforts</li> </ul>	<p><b>TBD</b></p>
<p><b>Study and monitor the cost (to districts and DOE) of state and federal laws and regulations</b></p> <ul style="list-style-type: none"> <li>• Legislature and DOE should strive to eliminate rules that have greater costs than educational benefit</li> </ul>	<p><b>TBD</b></p>
<p><b>Total estimated reallocation opportunity</b></p>	<p><b>\$1.6-2.8M+</b></p>

1. Same analysis on purchasing in districts was applied to procurement of DOE goods and services with the exclusion of food service. Impact includes federal funds. Savings in state funds is estimated to be \$1.3-2.2M